

Notes on *Hemidactylus tropidolepis* Mocq.

By

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With 4 Text-figures.

A *Hemidactylus* from Tanga, German East Africa (A. HOFFMANN) which I have received for identification from Mr. ED. LAMPE, Museum-kustos, Wiesbaden, has caused the following notes on this very interesting species, especially regarding its relationship to allied species, which question already has been discussed by TORNIER (*Deutsch-Ost-Afrika*, Bd. III, Lief. 3, p. 10—11), and also mentioned by LÖNNBERG (*Rept. Swed. Zool. Exped. Brit. East Africa*, K. Vet. Ak. Hand., Bd. 47, Nr. 6, 1911), but hitherto not yet fully solved.

By the very characteristic lepidosis of the flat, imbricate, and inter se very dissimilar scales (not granules), the specimen is easily distinguished from the vast majority of *Hemidactylus* species, and it approaches evidently *H. tropidolepis* from Somaliland, described by Dr. M. F. MOCQUARD in «Mémoires publ. par Soc. Phil. à l'occasion du centenaire de sa fondation», Paris 1888, p. 113. In some points, however, it differs from the description of that one as well, and probably I should not have dared to identify it with MOCQUARD's species, if I had not had for comparison three specimens from Njoro in Northern British East Africa, collected by Professor E. LÖNNBERG, which specimens correspond more closely than this one with the description of *H. tropidolepis* as well as with regard to the habitat, and which are, at the same time, so like my specimen that they are not to be specifically distinguished from the same. They are to be considered as connecting links between my specimen and MOCQUARD's type-specimen, which evidently also is the case with the specimen that TORNIER has described as type for *H. squamulatus* from the interior of

German East Africa (Kakoma? Ugundu) loc. cit., and about which he says that further comparison possibly may prove it to be identical with *H. tropidolepis*.

The most important differences between my specimen and the type-specimen of *H. tropidolepis* are the different number of præanal pores, 16 instead of 7, and the median row of transversely dilated rectangular plates on the under surface of the tail. In MOCQUARD's specimen the tail is «garnie sur tout son pourtour de grandes écailles lisses, imbriquées, non verticillées et d'égale grandeur». WERNER has found quite the same differences from MOCQUARD's specimen in a specimen from Abyssinia, established by him as a new species, *H. floweri*, based on the same characteristics (Ergebnisse der Zool. Forschungsreise Dr. FRANZ WERNER's nach Sudan und Nord-Uganda im Sitz.-Ber. Ak. Wiss., Wien, Math. Nat. Kl., Bd. 116. 1907). My specimen from Tanga should then be identical with the Abyssinian specimen, and both different from the Somali specimen which already for zoo-geographical reasons would be very strange. Besides, at least one of the two differences mentioned, viz. the different numbers of præanal pores, varies considerably in many species of *Hemidactylus*, and cannot be used as specific distinction, the difference not being greater than in these specimens. The other difference, viz. the transversal plates below the tail, seems to be of greater value, but also this characteristic can vary, at least to some extent; e. g. in *H. turcius* I have seen that at least some of the plates below the tail may be broken up into scales, and probably this can be the case with all the plates, and then we have the state of things exhibited in the present specimens.

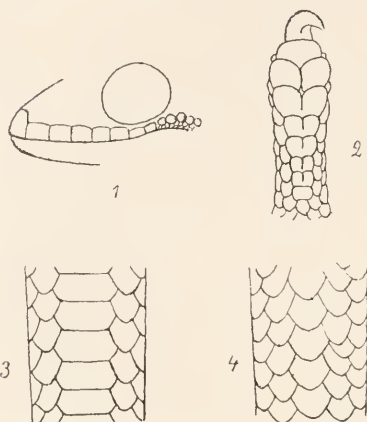
Further, if these two characteristics should be considered as sufficient specific differences, there would be not less than four distinct species nearly within the same zoo-geographical district, all of them corresponding in most important characteristics, especially with regard to the peculiar lepidosis, viz. one from *Abyssinia* and *Tanga* (14—16 pores and distinct subcaudal plates), one from *Somaliland* (7 pores, no subcaudal plates), one from the interior of *German East Africa* (TORNIER's specimen which has 16 pores and no subcaudal plates), and finally one from *Njoro*, northern British East Africa. (LÖNNBERG's specimens with about 7 pores and a median row of very large scales but no distinct plates below the tail; see Fig 4). It seems to me that such a subdivision in a number of slightly different species from nearly the same district

cannot be correct, especially as one of the "species" (*H. floweri*) has been found in Abyssinia as well as at Tanga, while the three others are recorded from the country between these localities which, as far as we know, represent the most northern and the most southern limits for the distribution of the whole group.

Some other differences which, to judge from the descriptions, should be characteristic to the «species» mentioned are of still less value than those, already discussed, because they are rather unimportant, and at the same time very irregular in their occurrence. For instance, if two forms differ in one small point or the other, they may agree in most others, and as far as I can see these small differences confirm my opinion, viz. that the forms in question ought to be regarded only as individual variations of one and the same species. — Already in the most important characteristic of the species, the lepidosis of the back, we find some variation which just was TORNIER's main reason for establishing his species, *H. squumulatus*. In MOCQUARD's description of *H. tropidolepis* the dorsal scales are said to be «plus ou moins fortement carénées, légèrement imbriquées et de dimensions très inégales». In TORNIER's specimen the scales are much more regularly disposed: «Zwischen grossen gekielten Schuppen liegen nämlich wesentlich kleinere kiellose Schuppen, die einander dachziegelartig decken und so angeordnet sind, dass ein Kreis von ihnen jede einzelne Kielschuppe einschliesst.» The great difference from *H. tropidolepis* which TORNIER believes to express by this description of the lepidosis I am not able to see. According to my opinion there is in this nothing of specific value which contradicts what MOCQUARD says. The only rather important difference, as far as I can find, is that the small scales are «kiellos» in TORNIER's specimen, «moins carénées» in that of MOCQUARD. In other respects the difference with regard to the scales appear to be about the same as that between the scales of the specimens from Tanga and Njoro. In the latter the lepidosis is very regular, almost as TORNIER says, but in the Tanga specimen the small scales which even in this one are smooth vary in size, and the difference between the larger of them, and the large, keeled, tubercle-like scales is not so prominent as in the Njoro specimens. In the latter we find as a rule two small, smooth scales between every large, distinctly keeled tubercle-like scale, but in the Tanga specimen only one. Besides, the very small scales which form a median row along the back are much more distinct in

the Njoro specimens. In the specimen from Abyssinia (*H. floweri* WERNER) the scales seem to be rather like those of *H. tropidolepis*.

The lamellæ under the toes are said to be in *H. tropidolepis*: 6 under the thumb, 8 under the 4th finger, and 8—9 under the 4th toe,



1. Upper lip. 2. Under surface of tail.
3. Under surface of third toe in the *Hemidactylus* from Tanga.
4. Under surface of tail in the *Hemidactylus* from Njoro.

but only the penultimate lamella is completely divided into a pair, the 2—4 behind this one are more or less mesially sulcated, but not fully divided; the most basal ones are described as being very narrow. As is shown by the figure 2, quite the same condition is to be found in the Tanga specimen. The toes are, however, so very little dilated that only 2—3 distal lamellæ have such an appearance as is usually found in the *Hemidactylus* species. The basal ones are much narrowed and more similar to a large furrowed scale than to a regular lamella. Evidently it is this that MOCQUARD intends to express with his words:

«toutes les autres lamellæ [the penultimate, and 2—4 behind this one excepted] sont entières et à l'exception de celle qui termine la portion élargie des doigts, très étroites». In *H. floweri* WERNER states «5 «Lamellenpaare unter der Innenzehe, 7 unter der Mittelzehe», a difference which is not so great as it will appear at the first glance. The grooves of the lamellæ are really so deep that one may speak nearly just as well about several pairs of lamellæ as about single sulcated ones. The somewhat dissimilar number of lamellæ in *H. floweri* and in *H. tropidolepis* is of no importance, the differences being rather small; besides the basal lamellæ are, as mentioned above, so small and scale-like that they easily might be counted on somewhat dissimilar manner. In the Njoro specimens the lamellæ agree very well with those in the specimen from Tanga except that the basal lamellæ are still narrower in the former.

The upper labials are stated to be 10 in WERNER's specimen, the 7th below the centre of the eye, and 8 in MOCQUARD'S. In the Tanga

specimen there are, as the figure 1 shows, 7 rectangular plates from rostral to centre of eye, gradually decreasing in size, but behind them 5 small rounded scales might also be considered as labials, though they are placed not quite on the outermost margin of the lip. In two of the Njoro specimens these small extra plates are wanting, the upper labials being 7—8 in number, the hindmost of which are placed below the eye, and as MOCQUARD states very small. In the third specimen, however, we find a pair of such small scale-like plates by which characteristic it approaches the Tanga specimen. As shown, the specimens and «species» discussed correspond very well in the arrangement of the labials as well as in that of the plates below the toes.

The *situation of the nostril* is quite the same in the Tanga specimen as in those from Njoro, and is also in agreement with the description given by MOCQUARD, but in *H. floweri* WERNER describes the nostril as having a somewhat dissimilar situation. In that specimen there is no distinct supranasal shield but only a small scale separated from its fellow by a third median scale which is absent in *H. tropidolepis* as well as in the specimens from Tanga and Njoro. Also this difference is certainly not to be considered as a specific characteristic, for, if it were, the Tanga specimen ought to correspond with *H. floweri*, and not with *H. tropidolepis* and the Njoro specimens. It is simply to be regarded as an individual variation.

Considering the facts set forth above I am convinced that all the species and specimens mentioned must be referred to a single rather variable species, *H. tropidolepis* MOCQUARD, distributed over Somaliland, Abyssinia, British- and German East Africa.